REMARKS

Claims 2 and 6 are cancelled without prejudice. Claims 1 and 4-5 are amended. Claims 7-10 are added. Support for new claims 7-10 is found on page 10, line 22 through, page 11, line 13. The amendment to claim 1 includes the limitation of original claim 3 – while the amendments to claim 1 and 4-5 are intended to improve readability. Accordingly, it is believed that no new matter will be added upon entry of the amendment. Upon entry of the amendment claims 1, 4-5, and 7-10 will be active.

Applicants thank Examiner Pezzuto for conducting the kind and courteous discussion with Applicants' representatives on July 29, 2004. The content of the discussion is reflected in the amendments to the claims and the comments contained herewith.

An aspect of the present invention is directed to shaped articles, e.g., automobile parts (see pages 10-11), that have excellent vibration-damping, flame retardancy, and transparency properties.

As noted in the Specification (pages 1-2), extensive investigations have been directed at utilizing the viscoelastic properties of polymeric materials for vibration-dampening applications. Some of these applications typically involve dampening vibrations that reside in, or originate from, metal parts. Accordingly, acrylic-based resins have received attention due to their known ability to adhere to metals. In some instances, the polymeric material having vibration-damping properties must be flame retardant. It is known to blend a variety of flame retardants, e.g., an organic flame retardant such as phosphorus-based retardants, nitrogen-based retardants and halogen-based retardant, and an inorganic flame retardant, with an acrylic-based resin in order to obtain a flame retardant polymeric composition. However, in some instances, the extent with which a polymeric composition is retardant to flames is dependent upon the amount of flame retardant present in the composition. Accordingly, it would seem logical to load the polymeric composition with as much flame retardant as is

necessary. However, polymeric compositions tend to lose their desired properties (i.e., mechanical strength and transparency) when too much flame retardant is added. Thus, it is desirable to employ a polymeric material that possesses the desireable characteristics of vibration-damping, flame retardant, and transparency.

It is believed that this is accomplished by a copolymer comprising from 20 to 100% by weight of at least one phosphate monomer (a) unit of the following general formula (1) (see claim 1), from 0 to 80% by weight of at least one (meth)acrylate monomer (b) unit, and from 0 to 30% by weight of the other monomer (c) unit copolymerizable with them, and the glass transition temperature of the copolymer is 80°C or less: wherein, R^1 in the formula represents hydrogen atom or methyl group, each R^2 and R^3 independently represents hydrogen atom, or an alkyl group or an alkyl ether group having from 1 to 8 carbon atoms, or an aryl group, and A represents an alkylene group having from 2 to 14 carbon atoms or a polyoxyalkylene group; and wherein tan δ at 25°C and 10 Hz is 0.5 or more. It is believed that none of the references describe or suggest a copolymer as presently claimed.

The rejection of claims 1 and 3-6 under 35 U.S.C. § 102(b) or, in the alternative, 35 U.S.C. § 103(a), over Emmons (EP 0625541) is respectively traversed.

Emmons' disclosure is directed to controlling adsorption of polymeric latex on titanium dioxide, i.e., interaction of particles and polymers in paints and coatings (p. 2, $\ell\ell$. 1-17). Emmons describes a polymeric latex that has "greater than 80 weight percent (meth)acrylic monomers, based on total monomer weight" (p. 8, $\ell\ell$. 26-27). Emmons provides a listing of suitable (meth)acrylic monomers (p. 8, $\ell\ell$. 28-47), which does not include a phosphate monomer represented by formula (1) (see claim 1). Emmons does state that phosphate monomers may be included in the monomer pool used for polymerization, but Emmons does specify a range for this monomer. However, Emmons does state that the "selected polymeric latex particles employed in the process of the present invention must be

polymerized from monomer including at least one copolymerizable species including adsorption-inducing functional groups, such as dihydrogen phosphate ester-functional monomers" (p. 8, ℓℓ. 56-57). Emmons' examples show latex polymers wherein a phosphate ester-functional monomer exists in various amounts, which include 1 wt% (phosphoethyl-acrylate; Ex. B; p. 15, ℓℓ. 5-6), 2 wt% (Kayamer PM-1; Ex. C, p. 15, ℓ. 37 and p. 9, ℓ. 5), and 6 wt% (phosphoethyl-acrylate; Ex. A; p. 15, ℓℓ. 39-40). This is unlike that which is presently claimed.

Accordingly, it is believed that claimed invention is not anticipated by Emmons' disclosure; and it is kindly requested that the Examiner withdraw this rejection.

While it may be true that Emmons' disclosure suggests a copolymer that may be obtained by copolymerizing meth(acrylate) monomers and phosphoester-acrylate monomers, it is believed that there is no suggestion to have a copolymer as recited in claim 1.

Furthermore, there is certainly no suggestion that the resultant copolymer possess the desired vibration-damping property (tan δ at 25°C and 10 Hz is 0.5 or more), as recited in claim 1. In the absence of such a suggestion, it is believed that there can be no case of obviousness.

Moreover, given the fact that Emmons' disclosure is directed to paints, it is easy to reason that one of ordinary skill in the art would not be motivated to modify various compositional components in order to arrive at the claimed invention. This point of view can be further appreciated upon inspection of the data shown on page 15 of the Specification, which is reproduced on the next page for the Examiner's convenience.

Table 1

	Ex.1	Ex.2	Ex.3	Ex.4	Ex.5	Ex.6	Comp. Ex.1	Comp. Ex.2	Comp. Ex.3
Diphenyl-2-methacryloyloxy ethyl phosphate	53	53	43	30	53	53	0	0	0
2-Ethylhexyl acrylate	47	27	47	0	47	47	100	80	0
Methyl methacrylate	0	20	0	0	0	0	0	20	0
Butyl acrylate	0	0	0	70	0	0	0	0	100
(2-Hydroxyethyl) methacrylate acid phosphate	0	0	10	0	0	0	0	0	0
Glass transition temperature (°C)	-35	-5	-39	-30	-35	-30	-80	-55	-50
tanδ(25°C)	0.8	1.2	0.8	0.8	0.8	0.8	0.2	0.5	0.2

The Examiner's attention is directed to the relative amounts of monomers and the respective tanδ values, which shows that superior vibration-damping characteristics are achieved when the phosphate monomer is present in an amount as presently claimed. When viewed in light of this data, it is believed that there can be no case of obviousness in view of Emmons' disclosure. Consequently, it is requested that the Examiner withdraw this rejection.

The rejection of claim 6 under 35 U.S.C. § 102(b) over each of the disclosures of Inaishi et al., Kimura et al., Emmons, EP0177139, GB2218708, US5534398, WO9728225, or Nair et al. (all of record) is obviated upon entry of the amendment, as claim 6 will be canceled. It is kindly requested that the Examiner withdraw this rejection.

In view of the amendments to the claims and the comments contained herein, it is believed that the claims are now in a condition for allowance. Should the Examiner deem that a personal or telephonic interview would be helpful in advancing this application toward allowance, she is encouraged to contact Applicants' undersigned representative at the below-listed telephone number.

Respectfully submitted,

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